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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,674	12/10/2001	Isao Kakuhari	0074/017001	9867

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SMITH PATENT OFFICE
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EXAMINER

PENDLETON, BRIAN T

ART UNIT PAPER NUMBER

2615

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/007,674

Applicant(s)

KAKUHARI ET AL.

Examiner

Brian T. Pendleton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/7/06.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 28-30 is/are pending in the application.
- 4a) Of the above claim(s) 5-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 28-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 2/7/06 have been fully considered but they are not persuasive. Applicant argues that Christenson fails to disclose the specific claimed rectifying structure of a rectified net followed by a rectified grid followed by a rectified net (listed going downstream of the fluid flow). Examiner asserts that the rejection (see below) is based on the obviousness to include a rectified net downstream of the rectified grid. Applicant also argues that Christenson does not disclose that the opening ratio of the rectified grid is greater than that of the rectified net. However, column 3 lines 32-49 disclose that the grid has a cell diameter of ¼ inch while the net has a 0.06 inch diameter hole. Therefore, the grid has an opening ratio greater than that of the net.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christenson. Christenson discloses an active noise control system in a duct 18 comprising noise detector 12, error detector 14, control sound source 16, arithmetic circuit 10, and rectifying part (turbulent airflow control device) 20. The rectifying part 20 comprises honeycomb section 24 (grid) and wire screen 28 or plate 22 (net). The rectifying part 20 is located upstream of the noise detector. The honeycomb section 24 has an opening ratio greater than that of the plate 22.

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Christenson does not disclose at least one second rectifying net placed in the duct 18 downstream of the rectifying grid (honeycomb section 24). It was taught by Christenson that the use of turbulent airflow control device 20 resulted in improving the coherence between the microphones. Furthermore, it was suggested in column 2 lines 61-67, that a combination of the plate 22, honeycomb section 24, and wire screen 28 can be utilized to smooth the turbulent air. Therefore, one of ordinary skill in the art would have been motivated to provide the optimal solution with respect to both rectifying net and rectifying grid placement and quantity that created the best noise control results without undue experimentation. As a result, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Christenson to include a second rectifying net downstream of the rectifying grid (honeycomb section 24) to purpose of improving its noise control function. Claim 1 is met. As to claims 28 and 29, since it would have been obvious to one of ordinary skill to provide multiple rectifying grids in the course of searching for the best turbulent airflow control configuration, it would have been also obvious to investigate several different arrangements of opening ratios for the rectifying grids in order to improve the coherence and as a result, the active noise control. The turbulence control device is limited to a few parameters - the number of nets, the number of grids, and the configuration (opening ratios) of the grids and nets - with respect to its performance. Therefore one of ordinary skill in the art would have been motivated to experiment with all three parameters to find an optimal solution and through such experiment a solution having equal opening ratios for the nets and a solution having different opening ratios for the nets would be realized. Regarding claim 30, the honeycomb section 24 contains a plurality of capillaries.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Guess et al, US Patent 3,821,999 and Sheplak et al, US Patent Application Publication 2002/0009202.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Pendleton whose telephone number is (571) 272-7527. The examiner can normally be reached on M-F 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian T. Pendleton
Primary Examiner
Art Unit 2615



btp